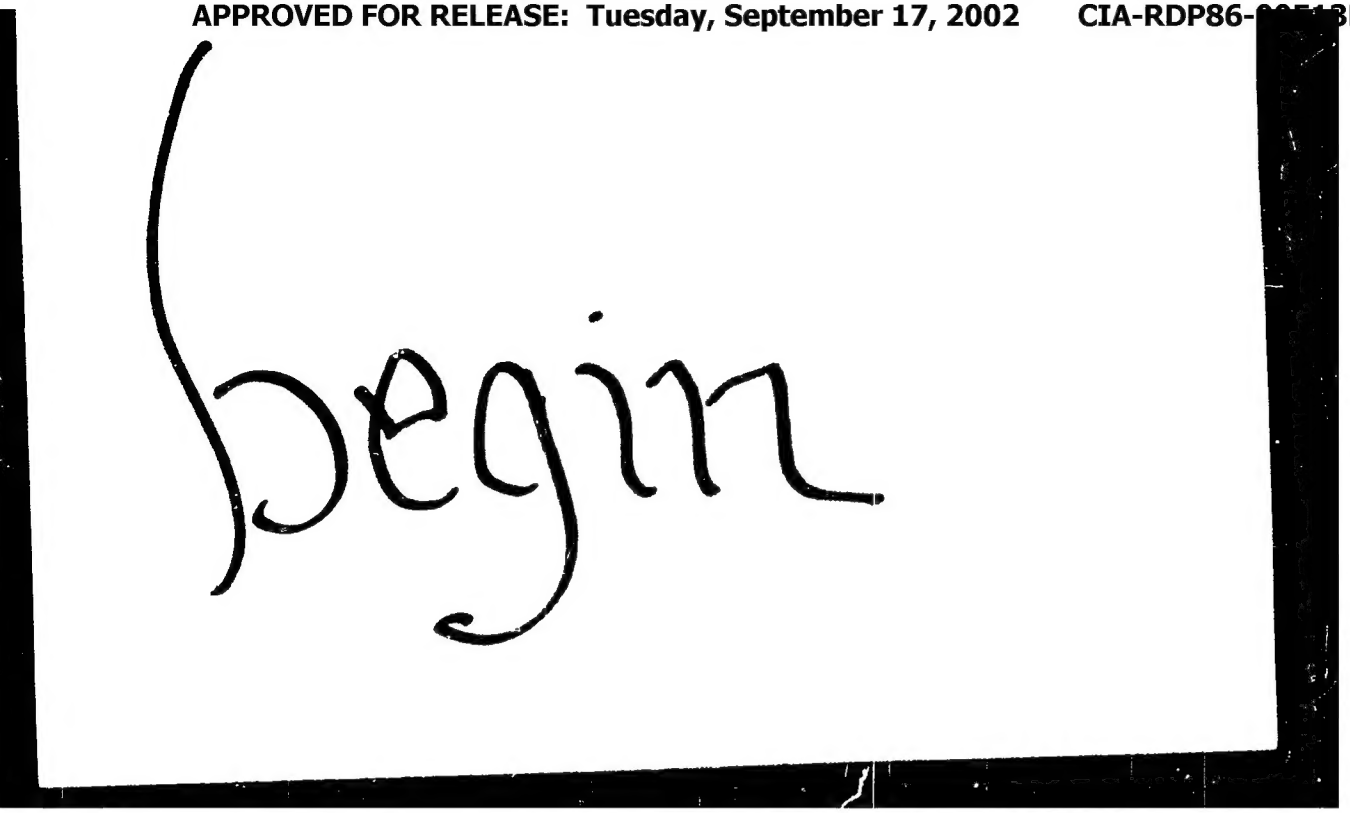
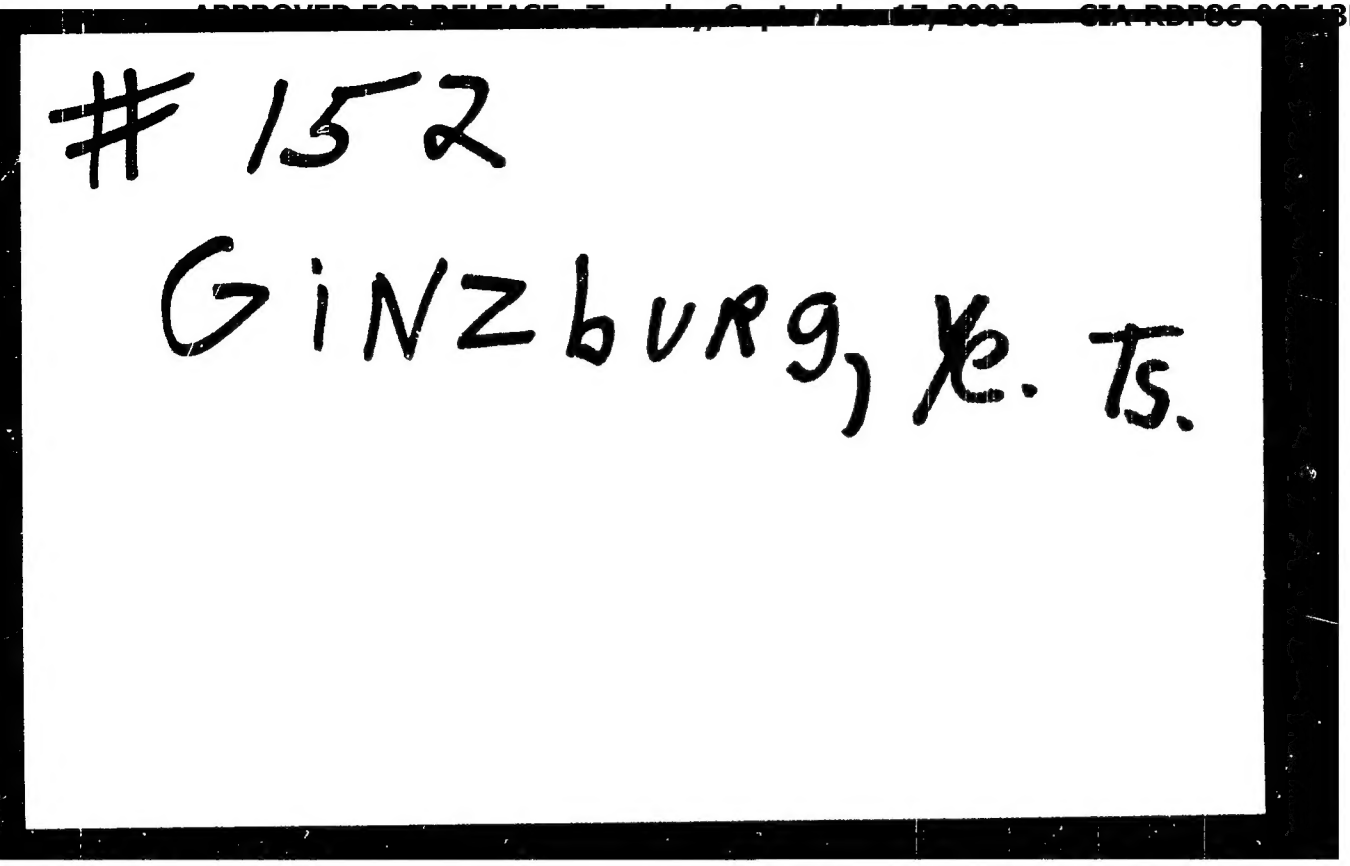




GINZBURG, YE. TS.

GUTOP, Vadim Grigor'yevich, kandidat tekhnicheskikh nauk; GINZBURG, Ye.TS., inzhenar, retsenzent; CHISTYAKOV, S.F., kandidat tekhnicheskikh nauk, dotsent, retsenzent, nauchnyy redaktor; GURVICH, E.A., redaktor; PANOVA, L.Ya., tekhnicheskiy redaktor

[Control and measuring techniques in building materials production] Kontrol'no-izmeritel'naia tekhnika v proizvodstve stroitel'nykh materialov. Moskva, Gos. izd-vo lit-ry po stroit. materialam, 1954. 494 p. [Microfilm] (MLRA 8:3)
(Measuring instruments) (Building materials industry)

ACC NR: AT6036600 SOURCE CODE: UR/0000/66/000/000/0236/0237

AUTHOR: Tuzin, R. A.; Nevskaya, G. F.; Popov, V. I.; Sychkov, M. A.; Shafirkin, A.V. Yurgov, V. V.; Abramova, G. M.; Ginzburg, Ye. V.; Kalandarova, M. P.

ORG: none

TITLE: Experimental investigation of the effectiveness of local radioprotective shielding [Paper presented at the Conference on Problems of Space Medicine held in Moscow from 24-27 May 1966]

SOURCE: Konferentsiya po problemam kosmicheskoy meditsiny, 1966. Problemy kosmicheskoy meditsiny. (Problems of space medicine); materialy konferentsii, Moscow, 1966, 236-237

TOPIC TAGS: radiation shielding, solar flare, cosmic radiation biologic effect, radiation protection, radiation dosimetry

ABSTRACT:

Many difficulties are encountered in selection of a radiation method suitable for study of the effect of local shielding. The radiation field within the limits of the irradiated object must not vary more than ±10%. The dose differential among absorbed doses must not exceed ±10%. Local shielding must produce at least a tenfold weakening of the dose. Furthermore, dose power must be sufficiently high to model solar flares, con-

sidering the limited stay of the irradiated animal in a fixed position. Experimental calculations of the passage of protons through tissue have shown that high-energy protons scatter very little. For example, the average angle of multiple scattering for 660-Mev protons passing through a lead filter with a thickness of 100 g/cm^2 is approximately 2°.

Selection of proton energies was made using data on the distribution of absorbed doses created by monoenergetic protons with energies from 100—600 Mev in a water phantom. Since these distributions have a dose differential greater than 10% with shielding thicknesses up to 20 g/cm^2, it was decided to irradiate the animals from two sides. Maximum equalization of distribution with this method was obtained with 250-Mev protons. The local shield used was made of paraffin. A radiation field was produced at the irradiated object with a difference of ±20%. To obtain more uniform radiation, animals were placed asymmetrically to the axis of the proton beam and each side received half of the dose.

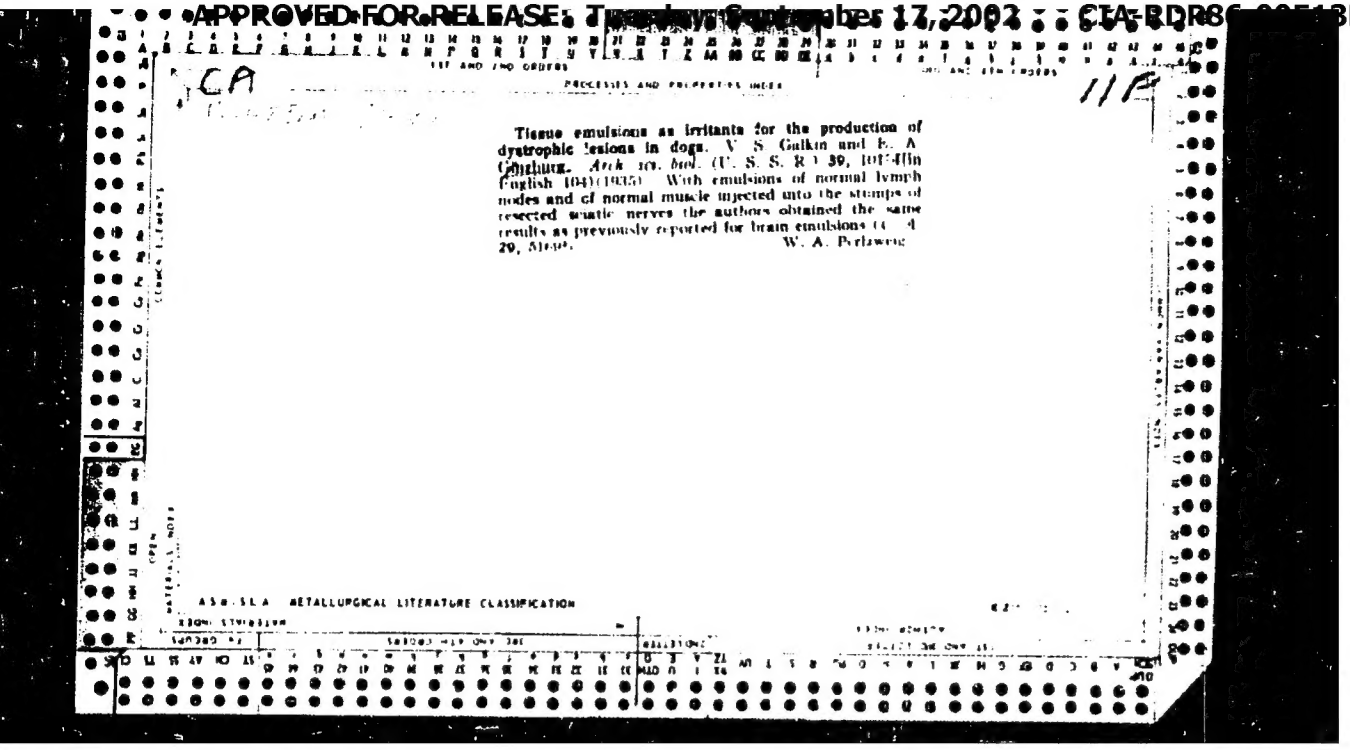
This method was perfected with a heterogeneous bone-paraffin phantom. Measurements made with this phantom showed a radiation field varying only 11% on the animals' surface. Furthermore, the differential of absorbed doses did not exceed 5%. When individual body parts were shielded, the

ACC NR: AT60 36600

dose decreased 10-15 times behind the shield. Thus the method described satisfies all the requirements listed above, and can be used in radiobiological study of the effectiveness of local shielding. [W. A. No. 22; ATD Report 66-116]

SUB CODE: 06, 18 / SUBM DATE: 00May66

Card 3/3



CA

11F

PROCESSES AND PROPERTIES INDEX

Tissue emulsions as irritants for the production of dystrophic lesions in dogs. V. S. Gulkin and E. A. Ginzburg. *Arch. sci. biol.* (U. S. S. R.) 39, 101-4(in English 104)(1935). With emulsions of normal lymph nodes and of normal muscle injected into the stumps of resected sciatic nerves the authors obtained the same results as previously reported for brain emulsions (C. A. 29, 5160). W. A. Perlzweig

A.S.M.-S.L.A. METALLURGICAL LITERATURE CLASSIFICATION

GINZBURG, E.A.

25261 GINZBURG, E. A. Pererezka Kozhnykh I rvov Konechnostey Po Kolotkovu Zak Sposob Lecheniya Boley Amputirovannykh. Voprosy Neyrokhirurgii, 1949, No.4, S. 32-38

SO: Letopis' No. 33, 1949

GINZBURG, Ye.Ya.

Method of general ultraviolet irradiation of children. Med. sestra, Moskva no.3:17-21 Mar 1952. (CIML 22:1)

1. Candidate Medical Sciences.

GINZBURG, Ye. YA.

GILYAROVSKAYA, Ye.P.

"Therapeutic gymnastics and massage in rickets and hypotrophy."
E.IA.Ginzburg, R.G.Sorochek. Reviewed by E.P.Giliarovskaia.
Pediatriia no.6:91-92 N-D '54. (MLRA 8:4)
(PHYSICAL THERAPY) (RICKETS) (GINZBURG, E.IA.)

GINZBURG, Yelizaveta Yakovlevna; MESSEL', David Veniaminovich; NIKULIN, N.G., redaktor; ROMANOVA, Z.A., tekhnicheskiy redaktor.

[Physical therapy and physical prophylaxis of diseases in children] Fizioterapiia i fizioprofilaktika detskikh boleznei. Moskva, Gos.izd-vo med. lit-ry, 1955. 366 p. [Microfilm](MLRA 8:10)
(CHILDREN--DISEASES) (PHYSICAL THERAPY)

GOL'DFEL'D, A.Ya., doktor med. nauk; GINZBURG, Ye.Ya.; DELITSIN, S.O., prof. [deceased]; IGNATOV, S.I., prof., KRAVETS, E.M., doktor med. nauk; LEPSKIY, Ye.M., prof. [deceased]; NEBYTOVA-LUK'YANCHIKOVA, M.N., prof.; SPERANSKIY, G.N.; TUR, A.F.; DOMBROVSKAYA, Yu.F., otv. red.; BUBNOVA, M.M., prof.; red.; VLASOV, V.A., prof., red.; GRECHISHNIKOVA, L.V., red.; LEBEDEV, D.D., prof., red.; MASLOV, M.S., red. [deceased]; NOGINA, O.P., kand. med.nauk, red.; NOSOV, S.D., prof., red.; SOKOLOVA-PONOMAREVA, O.D., red.; TERNOVSKIY, S.D., red. [deceased]; KHOKHOL, Ye.N., red.; ZHUKOVSKIY, M.A., starshiy nauchnyy sotr., red.; MAZURIN, A.V., kand. med. nauk, red.; ZAKHAROVA, A.I., tekhn. red.

[Multivolume manual on pediatrics] Mnogotomnoe rukovodstvo po pediatrii. Moskva, Medgiz. Vol.2. 1961. 566 p.
(MIRA 15:8)

1. Chlen-korrespondent Akademii nauk SSSR deystvitel'nyy chlen Akademii meditsinskikh nauk SSSR (for Speranskiy). 2. Deystvitel'nyy chlen Akademii meditsinskikh nauk SSSR (for Tur, Dombrovskaya, Maslov, Sokolova-Ponomareva). 3. Chlen-korrespondent Akademii meditsinskikh nauk SSSR (for Ternovskiy, Khokhol).
(PEDIATRICS)

GINZBURG, Yu.A.

Rates on electric power in the Polish People's Republic. Prom. energ. 18 no.6:45-49 Je '63. (MIRA 16:7)

(Poland--Electric power)

GINZBURG, Yu. B.

"Growth Morphology of Alveolar Branches." Sub 3 Dec 51, Moscow Medical Stomatological Inst.

Dissertations presented for science and engineering degrees in Moscow during 1951.

SO: Sum. No. 480, 9 May 55.

[redacted] Yu.B., assistent.

Structural modifications of the alveolar bone [illegible] life Stomatologiia [illegible]

1. [illegible] kafedry normal'noy [illegible] atomii [illegible] professor [illegible] Lesnikov) Moskovskogo meditsinskogo stomatologicheskogo [illegible] (Dental [illegible]

IGNATYUK, V.M.; GINZBURG, Yu.B.

We are waiting for businesslike proposals. Avtom.,telem.i sviaz' no.6:42 Je '57. (MIRA 10:7)

1. Nachal'nik otdela tekhnicheskogo kontrolya zavoda "Transsignal" (for Ignatyuk).
2. Nachal'nik kontrol'no-izmeritel'noy laboratorii zavoda "Transsignal," (for Ginzburg).
(Railroads--Signaling)

CHAKLIN, V.D., prof.; GINZBURG, Yu.B., kand. med. nauk

Myofasciodesis in insufficiency of the gluteal muscles following poliomyelitis. Ortop., travm. i protez. 26 no.1:39-44 Ja '65. (MIRA 18:5)

1. Iz kliniki detskoy ortopedii (zav. - Ye.A. Abal'masova, nauchnyy konsul'tant - chlen-korrespondent AMN SSSR prof. V.D. Chaklin) Tsentral'nogo instituta travmatologii i ortopedii (dir. - chlen-korrespondent AMN SSSR prof. M.V. Volkov) na baze Moskovskogo ortopedicheskogo gospitalya (nachal'nik - doktor med. nauk S.N. Voskresenskiy). Adres avtotov: Moskva Zh-44, 2-ya Dubrovskaya ul., d.13. Ortopedicheskiy gospital'.

SHAKOV, I.I., dotsent; GINZBURG, Yu.I.

Urethral-venous reflux. Vest. rent. i rad. 38 no.3:47-51
My-Je '63. (MIRA 17:7)

1. Iz kafedry rentgenologii i radiologii (zav. - dotsent I.I. Shakov) i urologicheskogo otdeleniya onkologicheskoy vrachey i rentgenovskogo otdeleniya Botkinskoy gorodskoy klinicheskoy bol'nitsy No.1. (nach. N.I. Semashko).

GINZBURG, Yu. N.

Effect of fineness of grind on technical properties of cement. N. P. Surnfant and Yu. N. Ginzburg. *Tsement*, 20 [3] 30-33 (1954).—Experiments were conducted with Portland cement. Finely ground cement (specific surface 4000 to 5000 cm.²/gm. without the addition of gypsum) shows much greater strength during the first periods of hardening than cement of ordinary grind (specific surface 1800 to 2000 cm.²/gm., 5 to 10% residue on No. 90 sieve). After 6 months and 1 year, the strength values become much closer and in some cases are equal. With increasing fineness, heat evolution becomes more intensive and shrinkage deformation of mortars and their tendency to form cracks increase. It is tentatively concluded that rational fineness depends on the applications of Portland cement. B.Z.K.

(1)

Ginzburg, Yu. N.

MT

Rapid-hardening portland cement by controlling the grain size. Yu. N. Ginzburg, N. P. Shidlovskaya, and Yu. N. Ginzburg. Tsement 21, No. 3, 19-23(1955).—It is possible to obtain rapid-hardening portland cement of 200 kg./sq. cm. in 24 hrs. by mixing cement of ordinary grain size with cement dust trapped in dust collectors. B. Z. Kanitch

(2)

101-4-12/13

SUBJECT: USSR/Tubular Mills

AUTHOR: Ginzburg, Yu.N., Engineer

TITLE: About Lining Tubular Mills (O futerovke trubnykh mel'nits)

PERIODICAL: Tsement , 1957, # 4, p 31, (USSR)

ABSTRACT: Efficiency of tubular ball mills depends to a certain extent on how the profile of its lining complies with two basic conditions:
1. It should correspond with the ginding surface and insure highest possible density, and
2 the contact between the balls as well as between the balls and the lining ought to be as close as possible.

It is necessary to classify the balls in relation to the length of the mill in such a way that the size of grinding surfaces decreases gradually towards the discharge section. [Reported in Revue des Materiaux de Construction ("C"), 1956,# 481-484]

PRESENTED BY:
SUBMITTED:
AVAILABLE: At the Library of Congress
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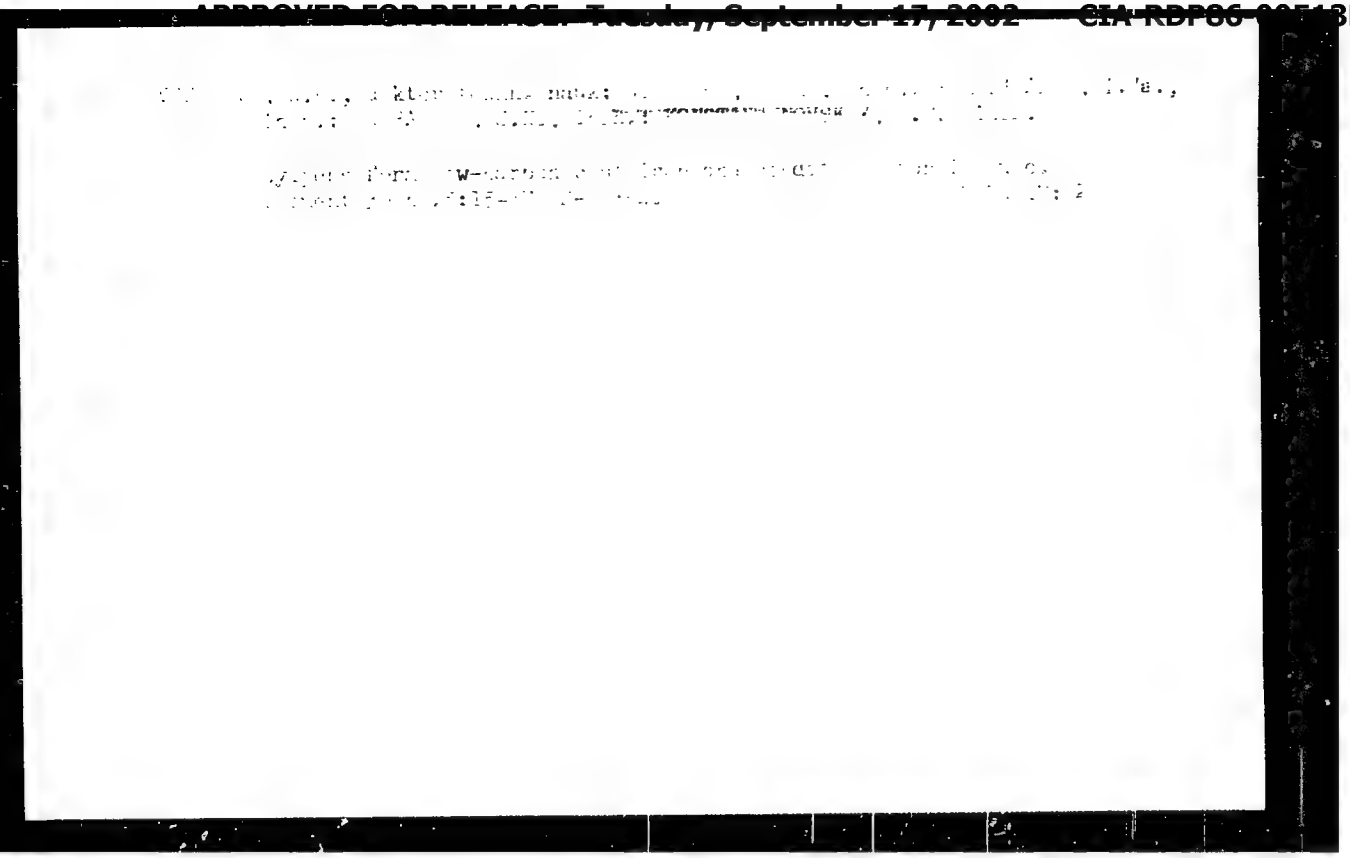
GINZBURG, Yu.N.

Prospects and economic expediency of using sodium tripolyphosphate, sodium metasilicate and a peat reagent as slurry thinners in the cement industry. Trudy Giprotsement no.24:145-154 '62. (MIRA 16:4)

(Cement)

VORONOVA, N.A.; GINZBURG, Yu.N.; TOVAROV, V.V.; TKACH, V.T.; Prinimali uchastiye: OSKALENKO, G.N.; KOROTAIEVA, V.P.; PODYACHEVA, I.B.; NIKANOROVA, N.A.

The problem of raising the quality of cylindrical grinding bodies. Trudy Giprotsement no.24:119-144 '62. (MIRA 16:4)
(Milling machinery)



AUTHOR: GINZBURG, Yu.P. 20-2-2/50

TITLE: On J-Non-Stretching Operator Functions (O J-nerastyagivayushchikh operator-funktsiyakh)

PERIODICAL: Doklady Akademii Nauk SSSR, 1957, Vol.117, Nr 2, pp.171-173 (USSR)

ABSTRACT: Let L_+ and L_- be mutually orthogonal complementary subspaces of the Hilbert space H. Let the operator J be defined by $J = E_+ - E_-$, where $E_\pm$ is the projector on $L_\pm$. (f,g) denotes the scalar product in H. Let a nondegenerated indefinite metric be introduced in H with the aid of the "scalar product" $[f,g] = (Jf,g)$. The author considers linear bounded operators in H. The operator U is denoted to be J-unitary, if the inverse operator of U exists in H and if $[Uf,Ug] = [f,g]$ for $f,g \in H$. The operator Y is denoted to be J-non-stretching, if $[Yf, Yf] \leqslant [f,f]$. Y is denoted to be two-sided J-non-stretching, if Y as well as Y^* are J-non-stretching.

Theorem: The tranformation

$$(1) \quad X = (E_+ Y - E_-)(E_+ - E_- Y)^{-1}$$

generates a one-to-one correspondence between the set of all two-sided J-non-stretching operators Y and a certain subset

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of the set of the non-stretching operators X, $\|X\| \leq 1$.

Theorem: Let Y be a two-sided J-non-stretching operator. U is assumed to be J-unitary and R an operator with a non-negative spectrum and with the property that JR is self-adjoint. In order that Y admits the representation Y = UR each of the following conditions is sufficient 1.) It exists Y^{-1}; 2.) Y is of the Fredholm type. Here R is uniquely determined by Y. In the case 1) this holds also for U.

The operator-function $Y(\zeta)$ is said to belong to the class $\mathfrak{N}_J$, if a.) $Y(\zeta)$ is holomorphic in the unit circle (at most except denumerably many points); b.) it exists a ζ_0, $|\zeta_0| < 1$, so that $Y^{-1}(\zeta_0)$ exists and $J-Y^*(\zeta_0)\, JY(\zeta_0)$ is completely continuous; c.) $Y(\zeta)$ is also J-non-stretching in all points in which the function is holomorphic. The function $Y(\zeta)$ is said to belong to the class $\mathfrak{N}_J^s$, if it belongs to $\mathfrak{N}_J$ and if in the unit circle there exists a point ζ_0 with

$$\operatorname{sp}\left\{J-Y^*(\zeta_0)JY(\zeta_0)\right\} < \infty .$$

Theorem: If $Y(\zeta) \in \mathfrak{N}_J$, then $Y(\zeta)$ and $Y^{-1}(\zeta)$ are holomorphic

in $|\zeta| < 1$, at most except in a set of isolated points in which $Y(\zeta)$ and $Y^{-1}(\zeta)$ possess poles. Here the highest coefficient of the Laurent series in the near of the pole is a finite-dimensional operator.

Theorem: Let $Y(\zeta) \in \mathfrak{S}_J^s$. The infinite products $\mathcal{L}^{(I)}(\zeta) = \prod_{k=1}^{\infty} b_k^{(I)}(\zeta)$ and $\mathcal{L}^{(II)}(\zeta) = \prod_{k=1}^{\infty} b_k^{(II)}(\zeta)$ formed over the poles of Y^{-1} and Y converge uniformly with respect to the norm whereever $Y(\zeta)$ is holomorphic. Here it is $Y(\zeta) = Y_o(\zeta)\, \mathcal{L}^{(I)}(\zeta) \cdot \mathcal{L}^{(II)}(\zeta)$, where $Y_o(\zeta)$ is an operator function of the class $\mathfrak{S}_J^s$ holomorphic in $|\zeta| < 1$ simultaneously with $Y_o^{-1}(\zeta)$.

Theorem: It holds the representation

$$Y_o(\zeta) = U_o \int_0^{\infty} \exp\left\{ -\frac{e^{i\varphi(t)} + \zeta}{e^{i\varphi(t)} - \zeta} \, d\, E\,(t) \right\},$$

where U is a J-unitary operator, $\varphi(t)$ a monotonely decreasing function $(0 \leqslant \varphi(t) \leqslant 2\pi)$, $JE(t)$ denotes a hermitian

On J-Non-Stretching Operator Functions

increasing operator function ($t = \sup J\mathfrak{E}(t)$) and $\hat{\int}$ is a multiplicative integral. 5 Soviet references are quoted.

ASSOCIATION: State Pedagogical Institute imeni K.D.Ushinskiy, Odessa (Odesskiy gosudarstvennyy pedagogicheskiy institut imeni K.D. Ushinskogo)

PRESENTED: By S.L. Sobolev, Academician, 31 May, 1957

SUBMITTED: 20 October, 1956

AVAILABLE: Library of Congress

GINZBURG, Yu. P., Candidate Phys-Math Sci (diss) -- "J-nontensile analytic operator-functions". Khar'kov, 1959. 12 pp (Min Higher Educ Ukr SSR, Khar'kov State U im A. M. Gor'kiy), 150 copies (KL, No 24, 1959, 125)

GINZBURG, Yu.P.

Subspaces of Hilbert space with indefinite metric. Mauch. zap. Gd. ped. inst. 25 no.2:3-9 '61. (MIRA 18:2)

GINZBURG, Yu.P.

Projecting in Hilbert space possessing a bilinear metric. Dokl. AN SSSR 139 no.4:775-778 Ag '61. (MIRA 14:7)

1. Odesskiy gosudarstvennyy pedagogicheskiy institut im. K.D. Ushinskogo. Predstavlena akademikom L.S. Pontryaginym.
(Hilbert space) (Distance geometry)

GINZBURG, Yu.P.; IOKHVIDOV, I.S.

Studies on the geometry of infinite-dimensional spaces with bilinear metric. Usp. mat.nauk 17 no.4:3-56 '62. (MIRA 15:8)
(Spaces, Generalized)

APPROVED FOR RELEASE: Tuesday, September 17, 2002 CIA-RDP86-00513R0005

GINZBURG, Yu.P.

The principle of the maximum for J-nonexpanding operator functions and some of its consequences. Izv. vys. ucheb. zav.; mat. no.1: 42-53 '63. (MIRA 16:5)

1. Odesskiy gosudarstvennyy pedagogicheskiy institut imeni K.D. Ushinskogo.
(Operators (Mathematics)) (Functions, Analytic)

GI[illegible]BURG, Iu.P.

Factorization of analytic matrix-functions. Dokl. AN SSSR 159 no.3:489-492 N '64 (MIRA 18:1)

1. Odesskiy pedagogicheskiy institut im[illegible]. K.D. U[illegible]nskogo. Predstavleno akademikom L.S. Pontryaginym.

GINZBURG, Yu.S., inzh.

Preparing saws for the T-92 and T-94 multiple sawing machines. Der. prom. 9 no.7:22-23 Jl '60. (MIRA 13:7)
(Saws)

GINZBURG, Z.

To the fund of the seven-year plan. NTO no.1:39-40 Ja '59.
(MIRA 12:2)

1. Chlen Khar'kovskogooblastnogo pravleniya nauchno-tekhnicheskogo obshchestva legkoy promyshlennosti.
(Kharkov Province--Research, Industrial)

GINZBURG, Z., inzh.

Scientific-technological conference on the mechanization of shoe manufacturing. Kozh.-obuv.prom. no.9:40-3 of cover S '59. (MIRA 13:2)
(Kharkov--Shoe manufacture--Congresses)

GINZBURG, Z.

PA12T8

USSR/Trucks - Parts Feb 1947
Trucks - Performance

"The Mechanization of Unloading Work," Z. Ginzburg
1½ p

"Avtomobil'" Vol XXV, No 2

Fairly detailed description of three mechanized unloading devices for the ZIS-5 autotruck: Hand rack and pinion gear unloaders, inertia rear dump, and specialized platform.

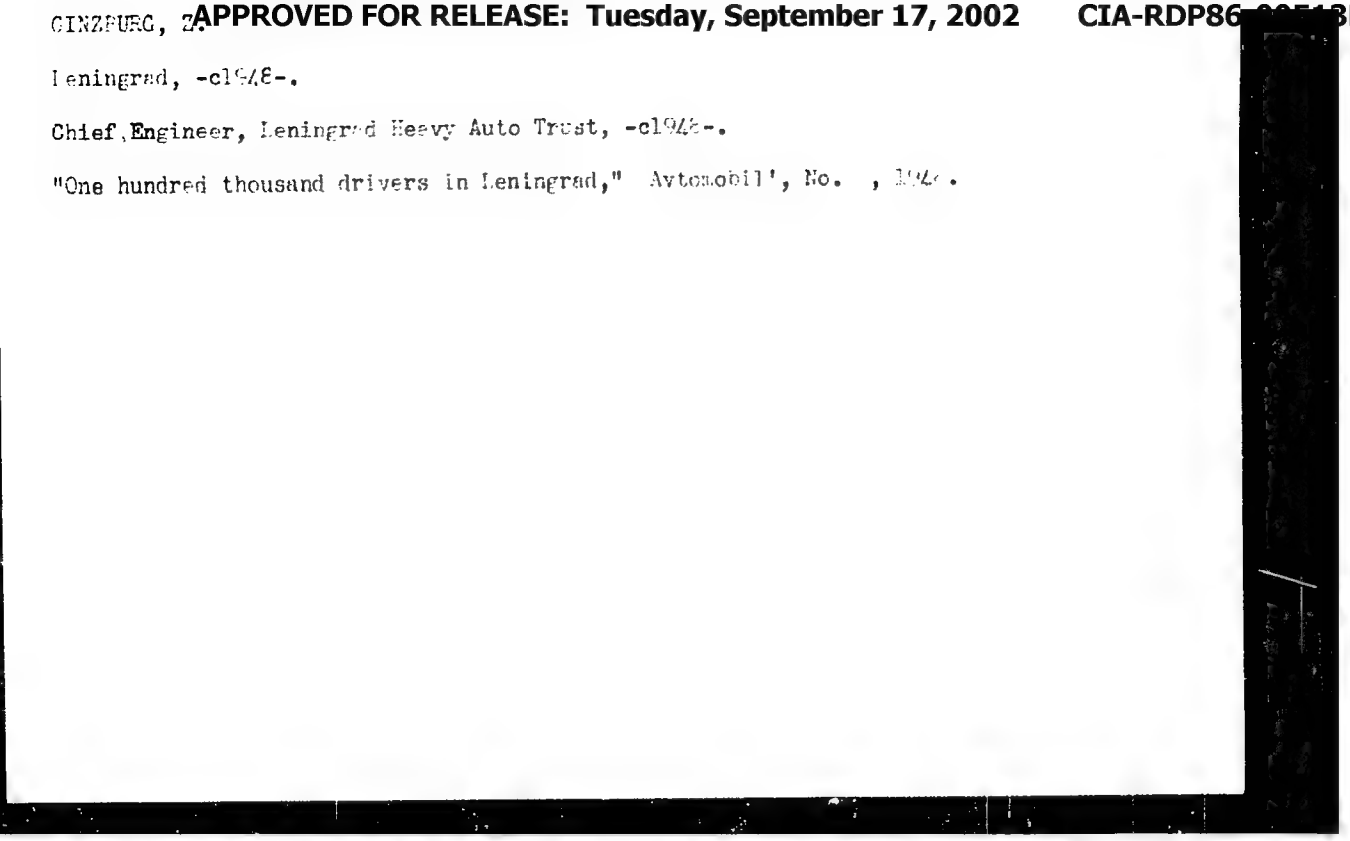
12T8

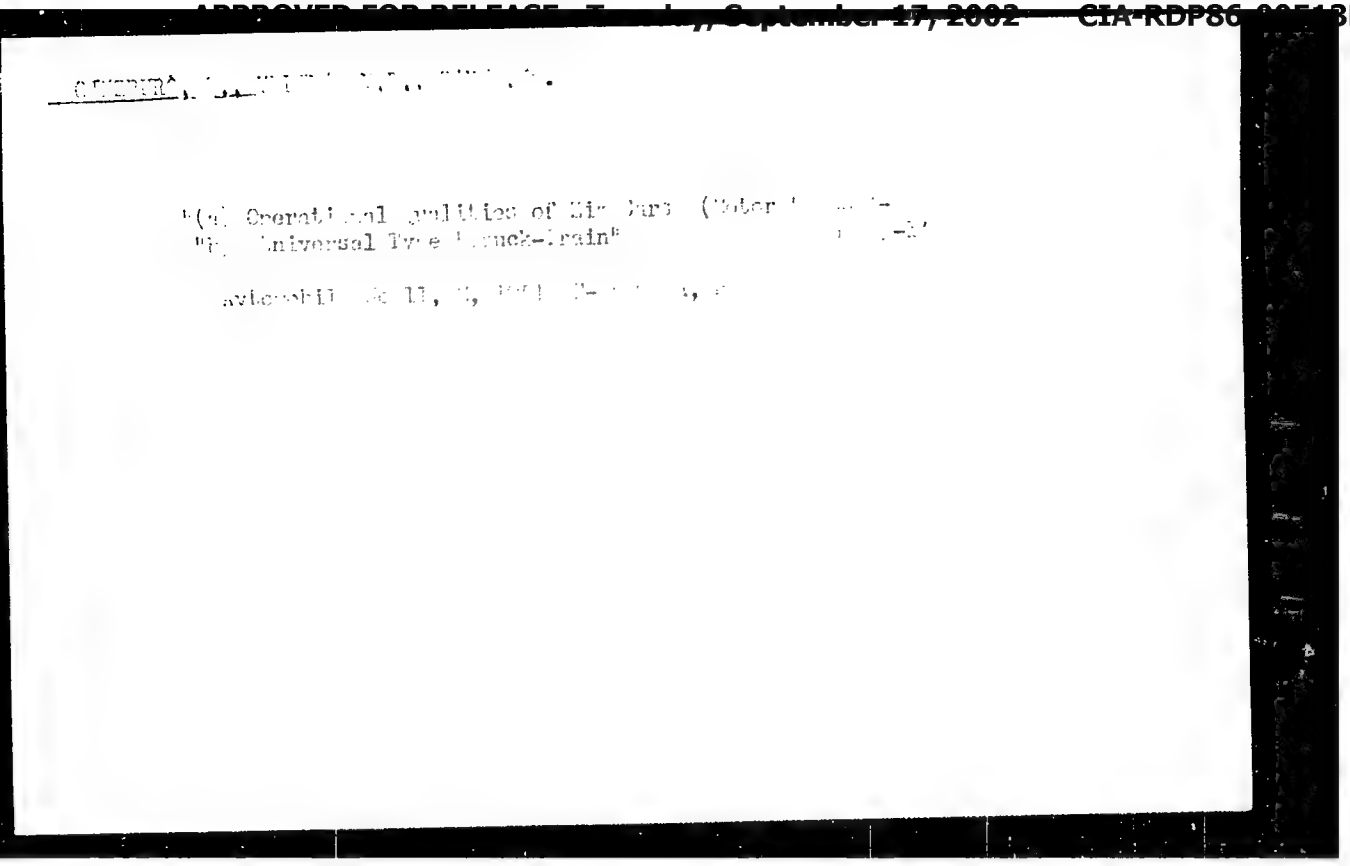
GINZBURG, Z.

Leningrad, -cl948-.

Chief Engineer, Leningrad Heavy Auto Trust, -cl948-.

"One hundred thousand drivers in Leningrad," Avtomobil', No. , 1948.





GINZBURG, Z.

GINZBURG, Z.; DEVYATKIN, P.

Bus service in Leningrad Province. Avt.transp. 32 no.5:9-10 My '54.

1. Leningradskiy oblastnoy avtotrest.
(Leningrad Province--Motor bus lines) (Motor bus lines--Leningrad Province)

GINZBURG, Zakhariy Semenovich; IVANOVSKIY, I.V., red.; ZHITNIKOVA, O.S., tekhn. red.

[Starting motor-vehicle engines in winter] Pusk avtomobil'nykh dvigatelei zimoi. Moskva, Gosenergoizdat, 1962. 43 p. (MIRA 15:7)

(Motor vehicles—Cold weather operation)

GINZBURG, Z.

Operation of a consolidated automotive transportation unit of the Leningrad Economic Council. Avt.transp. 40 no.11:31-32 N '62. (MIRA 15:12)

1. Zamestitel' nachal'nika otdela avtomobil'nogo transporta transportnogo upravleniya Leningradskogo soveta narodnogo khozyaystva.
(Leningrad--Transportation, Automotive)

GINZBURG, Zinovii Borisovich

Kak nakhodit' i ustraniat' povrezhdeniia v priemnikakh. /How to locate and eliminate disturbances in radio receivers/. Moskva, Gos. energ. izd-vo, 1948. 816 p. diagrs. DLC: TK6563.G5

Samodel'nye detali dlia sel'skogo radiopriemnika. /Homemade parts for a rural radio receiver/. Moskva, Moskovskii rabochii, 1950. 69 p. illus. Bibliography: p. /71/. DLC: TK9956.G5

Zvukozapis'. /Sound recording/. (Eksponaty 7-i Vsesoiuznoi zaochnoi radiovystavki). Rekomendovano v kachestve posobiia dlia radioklubov. Moskva, Gos. energ. izd-vo, 1949. 47 p. (Massovaia radio-biblioteka, vyp. 48). DLC: Slavic unclass.

SO: Soviet Transportation and Communications, A Bibliography, Library of Congress, Reference Department, Washington, 1952, Unclassified.

GINZBURG, Z. PA 3/49T91

USSR/Radio Jan 48
Television - Receivers
Television - Transmission

"Reception of Television Around Moscow," Z. Ginzburg, ½ p

"Radio" No 1

Results of tests conducted on two television receivers, one located 29 km from the transmitter, and the other, 32 km from the transmitter.

[redacted] 3/49T91

GINZBURG, Zinoviĭ Borisovich, comp.

Equipment for sound recording Moskva, Gos. energ. izd-vo, 1949. 31 p.
(Massovaia radiobiblioteka, vyp. 18) (50-55245)

TK6565.R4V8 1948c

GINZBURG, Zinovii Borisovich

How to locate and eliminate defects in radio receivers
Moskva, Gos. energ. izd-vo, 1949. 69 p.
(Massovaia radiobiblioteka, vyp. 28) (50-55-272)

TK6563.G5

GINZBURG, Z. B. and TARASOV, F. I.

A Beginners' Book for the Radio Amateur (Kniga nachinayushchego radiolyubitelya), Gosenergoizdat, 1949, 114 pp.

APPROVED FOR RELEASE: Tuesday, September 17, 2002 CIA-RDP86-00513R0005

GINZBURG, Z.

PA 26/49T87

USSR/Radio, Amateur — Jan 49
Photoelectric Cells

"Radio Amateurs in Service to the Peoples of the USSR," Z. Ginzburg, 2 pp

"Radio" No 1

Details devices to determine moisture of a granule, check quality of dyes in fabrics, find metal objects in ores, measure thickness of boiler scales in steam boilers, determine quality of treated surface in a part, etc. States that particular attention must be given to use of photoelectric tubes in industry, especially in

[redacted] 26/49T87

USSR/Radio, Amateur (Contd) — Jan 49

measuring nonelectrical quantities (temperature, pressure, stress, speed, etc.).

[redacted] 26/49T87

GINZBURG, Z.

USSR/Radio - Generators, Signal Aug 49
Directors, Dummy

"A Standard Signal Generator," Z. Ginzburg, 3 pp

"Radio" No 8

K. V. Kravchenko, a L'vov radio amateur, was awarded a prize for his universal signal generator at the Eighth Radio Exhibition. The generator contains a high-frequency oscillator (50 kc to 27 mc), a quartz calibrator, and audio-frequency oscillator (17 signals from 100 to 9,000 cycles), an FM oscillator, a vacuum-tube voltameter and a modulation monitor. This signal generator is a precision instrument which should prove useful in laboratory work.

66/49T102

GINZBURG, Z.

33129

V Pomoshch' Radiolyubitelyu-Konstruktoru. Vybor Detaley, Radio, 1949, No 10, c. 60-62

SO: Letopis' Zhurnal'nykh Statey, Vol. 45, Moskva, 1949

LOGINOV, V.N.; GINZBURG, Z.B., redaktor; BABOCHKIN. S.N., tekhnicheskiy redaktor.

[Radio remote control] Radioteleupravlenie. Moskva, Gos.energ. izd-vo 1950. 71 p. (Massovaia radiobiblioteka, no.82)
[Mikrofilm] (MLRA 8:12)
(Remote control)

GLIKSBURG, Z. B. and TARASOV, F. I.

Homemade Parts for Rural Radio Receivers (Samodel'nyye detali dlya sel-skogo radiopriyemnika), Izd Moskovskiy rabochiy, 1950, 72 pp.

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[Magnetic phenomena] Magnitnye iavleniia. Moskva, Gos.energ. izd-vo 1951, 111 p. (Massovaia radiobibliotoka, no.119) [Microfilm]
(Electromagnetism) (Ferromagnetism) (MIRA 8:4)

GINZBURG, Zinovii Borisovich.

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TK6565.C6G5

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9. Monthly List of Russian Accessions, Library of Congress, October 1952, Uncl.

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SO: N/5
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GINZBURG, Z.B.

GINZBURG, Z.B.; KASHIRIN, P.V., redaktor; KUDRYAVTSEVA, L.K., tekhnicheskiy redaktor.

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(Electric engineering)

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Name	Title of Work	Nominated by
Patelora, P. P. Belyayev, V. S. Dmitriy, ... B. Alektrov, V. A. Almarov, A. ...	Series of textbooks and students manuals on the electrification of timber felling	Moscow Forestry Engineering Institute

SO: W-30604, 7 July 1954

GINZBURG, Zinoviy Borisovich; TSEITLIN,A.M., redaktor; NADBAKH,M.P., retsenzent; STERIN,Ye.M., retsenzent; PITKEVICH,Ye.L., redaktor; KOLESNIKOVA,A.P., tekhnicheskiy redaktor;

[Movable electric power stations] Peredvizhnye elektrostantsii. Moskva, Goslesbumizdat, 1955. 254 p. (MLRA 9:2)
(Electric power plants)

YEMYUTIN, Vyacheslav Vyacheslavovich; GINZBURG, Z.B., redaktor; YEFREMOVA, Ye.V., redaktor; KARYAKINA, M.S., tekhnicheskiy redaktor

[How to tune superheterodyne recievers] Kak naladit' supergeterodinnyi priemnik. Moskva, Izd-vo DOSAAF, 1956. 60 p. [Microfilm]
(Radio--Receivers and reception) (MLRA 10:4)

MIKHLIN, Berka Zya'yevich; BERG, A.I., redaktor; DZHIGIT, I.S., redaktor; KULIKOVSKIY, A.A., redaktor; SMIRNOV, A.D., redaktor; TARASOV, F.I., redaktor; TRAMM, B.F., redaktor; CHECHIK, P.O., redaktor; SHAMSHUR, V.I., redaktor; GINZBURG, Z.B., redaktor; CHERNOV, V.S., tekhnicheskiy redaktor

[Electronic instruments for production control] Radioelektronnye pribory dlia proizvodstvennogo kontrolia. Moskva, Gos. energ. izd-vo, 1956. 62 p. (Massovaia radiobiblioteka, no.258)
(Automatic control) (Electronic instruments)
(Production control)

GINZBURG, Z.B.

KUBARKIN, Leontiy Vladimirovich; BERG, A.I., redaktor; DZHIGIT, I.S., redaktor; KULIKOVSKIY, A.A., redaktor; SMIRNOV, A.D., redaktor; TARASOV, F.I., redaktor; TRAMM, B.F., redaktor; CHECHIK, P.O., redaktor; SHAMSHUR, V.I. redaktor; GINZBURG, Z.B., redaktor; LARIONOV, G.Ye., tekhnicheskiy redaktor

[Radio circuit primer] Azbuka radioskhem. Moskva, Gos. energ. izd-vo, 1956. 63 p. (Massovaia radiobiblioteka, no.259) (MLRA 10:5)
(Radio circuits)

Ginzburg, Z. B.

YANUSHKEVICH, Georgiy Petrovich; GINZBURG, Z.B., red.; MEDVEDEV, L.Ya., tekhn.red.

[Portable phonograph with amplifier] Perenosnyi proigryvatel' s usilitelem. Moskva, Gos. energ. izd-vo, 1957. 15 p. (Massovaia radiobiblioteka, no.268) (MIRA 11:7)
(Phonograph)

GINZBURG, Z. B.

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[Amateur's socket-powered receiver with ultrashortwave band] Liubitel'skii setevoi priemnik s UKV diapazonom. Moskva, Gos. energ.izd-vo, 1957. 25 p. (Massovaia radiobiblioteka, no.270) (MLR 10:10)

(Radio--Receivers and reception)

GINZBURG, Z.B.

KOROBOVKIN, Viktor Vladimirovich; NEFEDOV, Anatoliy Mikhaylovich; GINZBURG, Z.B., red.; CHERNOV, V.S., tekhn.red.

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(Radio--Receivers and reception)

KORSUNSKIY, Saul Grigor'yevich; SIMONOV, Igor' Dmitriyevich; GINZBURG, Z.B., redaktor; VORONIN, K.P., tekhnicheskiy redaktor.

[Electric musical instruments] Elektromuzykal'nye instrumenty. Moskva, Gos.energ.izd-vo, 1957. 63 p. (Massovaia radiobiblioteka, no.271) (MIRA 10:11)

(Musical instruments, Electric)

GINZBURG, Zinoviy Borisovich; PATSIORA, Pavel Pavlovich; ALYAB'YEV, V.I., red.; NIKOLAYEVA, I.I., red.izd-va; BRATISHKO, L.V., tekhn.red.

[Using electricity at logging camps] Primenenie elektrichestva na lesozagotovkakh. Izd.2., perer. Moskva, Goslesbumizdat, 1959. 316 p. (MIRA 12:7)
(Electricity in lumbering)

BEL'SKIY, Iosif Romanovich, dotsent, kand.tekhn.nauk; VORONITSYN, K.I., retsenzent; GINZBURG, Z.B., starshiy prepodavatel', retsenzent; ZHESTYANIKOV, V.M., red.; PITERMAN, Ye.L., red.izd-va; PARAKHINA, N.L., tekhn.red.

[Electrical equipment for lumbering enterprises] Elektrooborudovanie lesozagotovitel'nykh predpriiatii. Moskva, Goslesbumizdat, 1960. 406 p. (MIRA 13:5)

1. Moskovskiy lesotekhnicheskiy institut (for Ginzburg).
(Lumbering--Equipment and supplies) (Electric machinery)

GINZBURG, Zinoviy Borisovich; KUCHARINA, K.I., red.; POPOVA, A.G., red. izd-va; SHIBKOVA, R.Ye., tekhn. red.

[Electric power distribution networks and electric lighting in lumbering]Elektricheskie seti i osveshchenie na lesozagotovkakh. Moskva, Goslesbumizdat, 1962. 202 p. (MIRA 15:12)
(Electricity in lumbering)

VIL'KE, Georgiy Aleksandrovich, kand. tekhn. nauk, dots.; GINZBURG, Z.B., spets. red.; PECHENKIN, I.V., tekhn. red.

[Fundamentals of the theory of automation (cybernetics); first lecture]Osnovy teorii avtomatizatsii (kibernetika); lektsiia 1-ia. Moskva, Izd-vo M-va sel'.khoz.SSSR, 1960. 45 p. (MIRA 15:7)

1. Predsedatel' Obshchestvennogo komiteta po avtomatizatsii lesopromyshlennykh predpriyatiy (for Vil'ke).
(Automation) (Cybernetics)

GINZBURG, Z.I.

Outcome of pulmonary tuberculomas. Probl. tuberk. 41 no.2:26-30 '63. (MIRA 17:2)

1. Iz terapevticheskogo otdeleniya (rukovoditel' - prof. S.M. Kuznetsova) Leningradskogo nauchno-issledovatel'skogo instituta tuberkuleza (dir. - prof. A.D. Semenov).

GINZBURG, Z.L., inzh.

Interfactory schools for the exchange of progressive practices.
Tekst. prom. 19 no.9:94 S '59. (MIRA 12:12)
(Textile industry)

AID P - 5611

Subject : USSR/Engineering

Card 1/1 Pub. 107-a - 11/12

Author : Ginzburg, Z. L.

Title : Scientific and Technical Conference on Welding in the Machine-Building Industry.

Periodical : Svar. proizv., 12, 29-30, D 1956

Abstract : A concise report on proceedings of the conference held on 16 to 19 October, 1956, in Khar'kov, in which some 200 delegates representing scientific and industrial organizations participated. The author outlines 24 reports delivered there on welding and related subjects.

Institutions: Electrowelding Institute im. Paton, Central Scientific Research Institute of Machine-Building Technology (TsNIITMASh), Scientific Research Institute of Chemical Machine Building (NIIKhIMMASh), and others.

Submitted : No date

APPROVED FOR RELEASE: Tuesday, September 17, 2002 CIA-RDP86-00513R0005

ANTOSHIN, Ye V

25(5) p 3 PHASE I BOOK EXPLOITATION SOV/1361

Spravochnik mekhanika mashinostroitel'nogo zavoda v dvukh tomakh. t. 2: Tekhnologiya remonta (Handbook for Mechanics of Machine-building Plants in Two Volumes. Vol. 2: Technology of Repair Operations) Moscow, Mashgiz, 19·3. vii, 1059 p. 40,000 copies printed.

Resp. Ed.: Yu.S. Borisov, Engineer; Ed.: K.G. Tsopin, Engineer; Tech. Ed.: T.F. Sokolova; Eds. of Set: Yu.S. Borisov, Engineer, A.P. Vladziyevskiy, Doctor of Technical Sciences, and P.A. Noskin, Candidate of Technical Sciences; Managing Ed. for Reference Literature (Mashgiz): V.I. Krylov, Engineer.

PURPOSE: This handbook is intended for personnel responsible for repair and maintenance operations in a machinery-manufacturing plant.

COVERAGE: The handbook contains information pertinent to the organization of repair and maintenance operations, design-preparation of maintenance work, and economics of maintenance. Information on scientific research organizations and plants participating in preparation of this volume is included in the coverage of Volume 1 (SOV/1359). There are no references. Basic topics covered include reconditioning and making of parts in maintenance operations; metal-working, hoisting, and pipe-fitting; finishing operations involved in maintenance work; checking parts for precision; basic bench and assembly work; maintenance of power equipment; and maintenance of foundations.

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Forging hammers 340
Horizontal forging machines 342
Steam-hydraulic presses 344
Crank presses 345

Maintenance and manufacture of parts for hoisting machinery (Sheyngol'd, Ye.M., Engineer; and Byalyy, I.L., Engineer) 346
General material requirements 346
Traveling wheels 346
Load-grabbing elements 347
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Manufacture of bimetallic parts (Borisov, Yu.S., Engineer) 348
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Centrifugal method of casting 350
Manufacture of bimetallic worm gears, nuts, and other parts 352

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GINZB. Z. L.

AUTHOR: Ginzburg, Z.L., Engineer, 128-58-4-15/18

TITLE: Scientific-Technical Session on Progressive Technology of Casting Molds (Nauchno-tekhnicheskaya sessiya po progressivnoy tekhnologii liteynoy formy)

PERIODICAL: Liteynoye Proizvodstvo, 1958, No. 4, pp 28-30 (USSR)

ABSTRACT: A conference on the technology of casting molds - organized by the NTOMAShPROM of the Khar'kov Oblast' - convened in Khar'kov on 14-16 November 1957. More than 200 delegates from plants, research institutes, vuzes and other organizations of the Khar'kov and other regions participated. Problems of earth-mold casting were discussed. A total of 24 reports were delivered on hardening and exothermic mixes and the mechanized processes in USSR and abroad. B.A. Noskov and V.I. Ryzhkov (KhPI) gave information on molding sand and clay available in the Khar'kov economic region. The following reports were also heard: V.V.Ryabova - on the use of carbon dioxide, at NKMZ, for chemical strengthening of molds, which has reduced the drying period and cut the consumption of generator gas, improved the quality of castings, and nearly

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doubled the production of molds; N.Kh. Ivanov - on the use of the same quick-hardening mixes, with cold carbon dioxide, at the Slavyanskiy mashinostroitel'nyy zavod (Slavyansk Machinebuilding Plant); Engineer D.A. Lur'ye (Giprostanok) - on modern methods and an installation for production of carbon dioxide; Engineer Ye.P. Tolmachev of the Voroshilovgradskiy teplovozostroitel'nyy zavod (Voroshilovgrad Diesel-Locomotive Plant) - on experience with molding sand milled in a special vibration mill, which solves the problem of obtaining castings with a clean surface not only with shell molds, but also with conventional molding methods; A.Ya. Izmalkov - on the oil-less binder "P" used at the plant "Serp i Molot"; A.I. Veynik - on the theory of forced cooling of castings and the experience in this method at the Novo-Kramatorskiy i Minskiy stankostroitel'nyy zavodov (Novo-Kramatorsk and Minsk Machine Tool Plants) which developed this method in the production of large castings; I.V. Ryzhov - on the physico-chemical nature of sand crust (on castings) and the ways of eliminating this crust by producing a de-oxidizing atmosphere between the mold and the metal, casting in vacuum, or crystallization-preventive additions to water glass; P.G. Novikov (of TsNIITMASh) - on

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results of the collective work of TsNIITMASh and NKMZ on technological problems of the production of large molds, and the new method of forced or controlled cooling of castings in the ground, as well as on the experiments with a system of universally applicable cast parts; B.K. Dymshin of the Khar'kovskiy turbinnyy zavod (Khar'kov Turbine Plant) and Engineer I.Ye. Gabey (NKMZ) - on exothermic mixes for heating the feeding heads of steel and cast iron castings; M.L. Turovskiy - on investigation of internal stresses at the Khar'kovskiy zavod transportnogo mashinostroyeniya (Khar'kov Plant of Transport Machines); V.S. Ladnov - on mechanized casting into shell molds by shot-strewing the mold boxes, being introduced at the same transport machine plant; K.I. Kostinenko - on the organization of boxless molding at the plant Rostsel'mash; N.A. Gerasimov of the Kremenchugskiy zavod dorozhnykh mashin (Kremenchug Road Machine Plant) - on casting parts in molds produced under pressure up to 100 kg/cm^2, without mold boxes, which nearly completely eliminates the necessity of machining the castings and greatly reduces the consumption of foundry materials and metal; A.M. Petrichenko of the Khar'kovskiy

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avtodorozhnyy institut (Khar'kov Auto-Road Institute) - on the experience of the Chinese Democratic Republic with semi-permanent molds for thin-wall castings; Ye.A. Sukhodol'skaya of the Khar'kovskiy politekhnicheskiy institut (Khar'kov Polytechnical Institute) - on some peculiarities of foundry technology in China; V.D. Bezuglov of the Khar'kovskiy zavod zubovrachebnykh materialov (Khar'kov Plant of Dentistry Materials) - on self-hardening plastics "AST" which is readily machineable, well suited for decorative correction of surface faults on metal castings, and also for making light core boxes, press-molds for wax patterns, etc. The conference recommended that the Khar'kov Sovnarkhoz organize the exploitation of molding sands and clays in the region and a centralized production of carbon dioxide. The conference pointed out the necessity of extensive use of quick-drying mold mixes, forced cooling of castings, exothermic mixes for heating the feeding heads, and the necessity to introduce the shell-mold and the chill-casting methods. The method of making molds

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under high pressure was recommended for use. The importance of the Khar'kov Dentistry Materials Plant and KhPZ work with self-hardening plastics for foundry use was emphasized.

AVAILABLE: Library of Congress

1. Castings-Scientific reports

Card 5/5

AUTHOR: Ginzburg, Z. L. 129-58-5-15/17

TITLE: Scientific-Technical Conference on Metallography and Heat Treatment, Khar'kov (Nauchno-tekhnicheskaya konferentsiya po metallovedeniyu i termicheskoy obrabotke, Khar'kov)

PERIODICAL: Metallovedeniye i Obrabotka Metallov, 1958, Nr 5, pp 53-57 (USSR)

ABSTRACT: The conference was organised by the Khar'kov Directorate of the Scientific-Technical Society of the Engineering Industry jointly with the Sovnarkhoz to celebrate the 40th anniversary of the October Revolution. About 200 research workers, engineers and technicians participated. Candidate of Technical Sciences V V.Gavrilenk read a paper on the achievements of Soviet science and engineering in the field of metals technology and heat treatment during the forty years of Soviet rule. Doctor of Technical Sciences, Professor P. P. Petrenyan, Khar'kov Institute of Railway Engineers, read the paper "On the Mechanism of Transformation of Super-cooled Austenite". He expressed the view that all the transforma-

Card 1/20 tions of super-cooled austenite in the temperature range

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A_1-M can be considered as processes linked with preliminary falling out of carbon from the austenite, which is a necessary condition for the subsequent polymorphous $\gamma \rightarrow \alpha$ transformation to proceed. There is a qualitative relation between the duration of the incubation period and the transformation mechanism in the entire temperature range A_1-M.

Candidate of Technical Sciences I. M. Lyubarskiy and Engineer O. M. Podgorna, Khar'kov Works for Building Transport Machinery imeni Malyshev, dealt with the changes in the characteristics of rubbing surfaces. Until recently the problems of wear and friction were not considered from the metallurgical point of view; the first experiments in this respect have shown how fruitful metallurgical investigations of rubbing surfaces can be. During the process of friction important structural and physico-chemical changes take place in the active layer. The nature and the dynamics of the changes during friction of the "white zone" was considered. In this part of the paper the influence of the white zone on the operational

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properties of the components was elucidated. Practical experience has shown that most failures are due to fatigue. A very effective method of increasing the stable strength of components is by surface work hardening.

Candidate of Technical Sciences A. A. Novik and Engineer V. I. Muzhikov reported on the work of the Khar'kov Works for Building Transport Machinery in the paper "Surface Work Hardening as an Effective Method of Increasing the Fatigue Strength of Highly Stressed Components". The highest sensitivity to failure was observed in components which contain stress concentrators inherent in the design. Surface work hardening of such components gives better results and is technologically more suitable than shot peening. Work hardening by means of rolls is suitable for components like gears, shafts, etc. Work hardening of friction discs and of cylinder jackets of diesel engines by shot peening proved highly effective.

Card 3/20 In his paper Engineer D. B. Boskoboynikov dealt with

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"X-ray investigation of work hardened surface layers". During the hardening, structural transformations take place in the surface layer. Type I, II and III stresses occur which assume high values. In the present paper Works the structural transformations were investigated in the surface layer of components after [illegible] grinding, and work hardening by rolls. Comparable specimens were tested which were made of the Steels U8A, 45KhN (cast), 40 KhNT (forged), 45KhNMFA (heat treated and in the as-delivered state). The amplitude and the character of the distribution of the stresses of the first and the second type (micro-stresses) were determined and also the dispersion of the crystallites along the depth of the work hardened layer. Type I residual compression stresses occur on the outside surface of the components. With increasing roll pressure, up to a certain value, the type I residual stresses will increase and e.g. exceed 100 kg/cm^2 for heat treated steel. The depth of the work hardened layer increases on increasing the roll pressure. The micro-stresses at the surface reach 35-40 kg/mm^2. With increasing distance from the surface, the micro-stresses drop rapidly

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at first and then slowly approach [illegible] value of the core. The structures of [illegible] layers obtained by shot peening and work hardening by rolls differ considerably.

Candidate of Technical Sciences M. I. [illegible] and Engineer Sh. R. Dobrushkina reported [illegible] high strength alloy steel 15GDYuT (0.1[illegible]-0.1[illegible]% C, 1.[illegible]-1.5% Mn, 0.15-0.30% Si, 0.30-0.[illegible]% Cu, 0.0[illegible]-0.10% Ti, 0.04-0.08% Al) which was developed by the Ukrainian Research Institute; manganese-titanium steel [illegible] alloyed with copper for increasing the strength [illegible] against corrosion and with aluminium for obtaining [illegible] to obtain a high impact strength at low temperatures. For elucidating the mechanism of the influence of titanium on the properties of steel [illegible] method was used by means of which it [illegible] that the presence of titanium [illegible] brittleness of titanium steels [illegible] must be normalised. [illegible] 15GDYuT [illegible] to

 [illegible] used in the [illegible]

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sheets. A particular advantage of this steel is its high impact strength at 80 to 100°C. It is somewhat cheaper than some steels used for the same purpose. Also, this steel has favourable strength properties, good weldability and toughness, particularly at low temperatures, and also it has little inclination to ageing. This steel is at present being further tested to elucidate its behaviour in complex stress states and under vibration loads. Furthermore, the weldability and the optimum chemical composition are being investigated in great detail. Candidate of Technical Sciences N. V. Volobuyev (KhPI) in his paper "Influence of Niobium on the Properties of Manganese Steel" dealt with investigations on the influence of niobium on the temper brittleness and on the mechanical properties of manganese steel. It was established that 0.20-0.48% Nb reduces the temper brittleness of manganese steel, which is one of the cheapest alloy steels with high strength properties. If the Nb content exceeds 0.48%, the impact strength of manganese steel smelted by the normal method decreases, since in this case niobium causes the formation of coarse carbides. Niobium has a still

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greater influence on the impact strength of [illegible] steel melted in vacuum. For [illegible] of 0.0 to 0.40%, the impact [illegible] increases. It was found by micro-structural investigation that in temper brittle steel double etching reveals the boundaries of the previous austenite grains along which carbides are distributed. In steels with a lower carbon content there are almost no carbides along the grain boundaries and an increased concentration of the solid solution is observed. In order to [illegible] temper brittleness etching does not reveal the grain boundaries. Manganese steel additionally alloyed with Nb has a strength [illegible] yield point which is higher than for steel without Nb.

Engineer A. D. Tikhaya read the paper "Investigation of Cast "Steel 45" with Additions of Boron for Improving the Hardenability of Driven Wheels and Bearing Rolls of Bulldozer DT-54". Boron [illegible] of ferroboron [illegible] and for better [illegible] an additional [illegible] of

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deoxidation [illegible] aluminum [illegible] 50%. The boron is [illegible]. The results of spectral [illegible] boron [illegible] components varied between [illegible] limits (0.001-[illegible]%). [illegible] of experimental components containing [illegible] boron did not cause any difficulty.

Engineer Yu. L. [illegible] ([illegible]) reported on the organization of [illegible] in machining [illegible] equipment for [illegible] lines for [illegible] (H.F. [illegible] for [illegible] hardening, [illegible] of components of [illegible] hardening of gears). [illegible] characteristics of the conditions of [illegible] also elucidated the [illegible] of organizing the [illegible] treatment operations in [illegible] lines for manufacturing components using gas flame [illegible] of the temperature [illegible].

Candidate of Technical Sciences V. V. [illegible] (K PI) reported on the investigation [illegible] by

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means of a magnetostriction vibrator. The investigations were carried out on 1Kh13 steel, brass and copper. A very clear conception on the process of cavitation failure is provided by the kinetic curves which characterize the loss in weight as a function of the test duration. The existence of four periods was established for the cavitation erosion, namely, the incubation period, the period of intensive uniform failure and the period of the damped disruption. He proposes evaluation of the erosion stability of metals on the basis of the third period during which the speed of disruption is constant and depends on the structure and the properties of the material. Cast steels (chromium, stainless and copper containing steels) which are widely used for blades of hydraulic turbines have an erosion stability about 10 to 20% lower than that of the rolled stainless steel 1Kh13. The stainless austenitic steels 1Kh18N9T and EI123 and also the pearlitic steel EI10 have an erosion stability which is twice as high as the steel 1Kh13. The chemical-heat treatment of the surface of steel improves the erosion stability. Thus, nitriding of the steel 1Kh13 improves the erosion stability fivefold, whilst alitising of

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Steel 20 increases the erosion stability fourfold. Investigation of aluminium bronzes of various chemical compositions in various states has shown that aluminium bronzes of compositions approaching the eutectoidal one have a high erosion stability. Bronzes containing 12.5% Al have an erosion stability seven times as high as that of Steel 1Kh13. Hardening of aluminium bronzes containing 10 to 13% aluminium brings about a sharp increase of their erosion stability. Hardened bronze containing 10% aluminium has a erosion stability about four times as high and one containing 12.5% aluminium has an erosion stability about 29 times as high as that of Steel 1Kh13. Aluminium bronzes containing 10 to 13% Al deposited by welding (as facings) on Steel 20 GSL have a erosion stability which is several times as high as that of Steel 1Kh13. The grain size and the dispersion of the structure influence the erosion stability of the alloys. Cavitation erosion has a selective character and affects strongly the structure of the material, which can clearly be seen when testing cast alloys. At the initial stage of the test

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APPROVED FOR RELEASE: Tuesday, Septem[illegible] R0005

erosion reveals the grain [illegible] fi[illegible] structure. Only for alloys of a single [illegible] structural group can hardness be applied [illegible] has a decisive influence on the erosion [illegible]bility.

In his paper "On the Mechani[illegible] of Cavitati[illegible] Erosion of Metals" Engineer D. I. Bel[illegible] ([illegible]) reported on X-ray investigations of car[illegible] cavitation erosion of metal[illegible] blocks of the mosaic struct[illegible] initial stage of the investigations decreased by about 50[illegible] stabilised. Distortions of the lattice reached a magnitude of $3 \cdot 10^{-4}$ at the ini[illegible] investigations and then were no longer detected ("ca[illegible]"). It is assumed on the basis of the obtained results [illegible] of metals under conditions of cavitation proce[illegible] to the scheme of impact brittle fracture. [illegible]lished that cavitation fracture of aluminium [illegible] are accompanied by intensive breaking up [illegible] so that after 45 secs of cavitation effect [illegible] of single crystal specimen becomes polycrys[illegible] depth of

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about 0.15 mm with a grain size of 10^{-4} cm. It was also established that cavitation leading to intercrystalline of aluminum does not begin about [illegible] deformations in the crystal lattice. [illegible] combine the existence of impact brittle fracture [illegible] during cavitation erosion. The assumption is proposed that brittle fracture of the metal under conditions of cavitation erosion is due to the propagation of [illegible] caused by the shock effect of the cavitation bubbles. Electro-spark hardening of the surface of steel does not increase the cavitation stability due to the brittleness of the hardened layer. Nitriding improves [illegible] the cavitation stability of the steel. The [illegible] of the steel depend to a considerable extent [illegible] distribution of the alloying elements between [illegible] within the limits of the individual grains. Radio-[illegible] permit establishing the character of the distribution of alloying elements along the grain of the steel [illegible] for changes during high temperature annealing and [illegible] cooling. Engineer A. F. Lubchenko reported on [illegible] of the distribution of alloying elements in [illegible]-nickel steels

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by means of radio-active isotopes. By means of autoradiography it was established that there is a redistribution of carbon during the intermediate transformations in the case hardened layer of the Steel 18KhNVA. Using radio-active tracers, he studied the redistribution of chromium between the carbides and the solid solution. The obtained experimental data can be utilised in the selection of the optimum heat treatment regime of steel.

Engineer V. Ya. Litvinenko (imeni Kirov Turbine Works) reported on the thermomagnetic analysis of austenitic steels. As a result of graduation of the thermomagnetic apparatus on the basis of the data obtained from investigating the phase composition, a relation was obtained between the indications of the instrument and the iron concentration in standards and also on the magnetic susceptibility of the specimens. This enabled quantitative analysis of the content of the ferromagnetic phases in austenitic steels. By means of thermomagnetic analysis the presence was established of four ferromagnetic phases in the Steel 1Kh18N9T, each of which have differing

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Curie points.
Engineer L. N. Udovenko (Works for Building Transport Machinery) dealt with physical methods of control, describing certain results of introduction of magneto-electric instruments for controlling the quality of heat treatment and practical introduction of radiographic methods of searching for defects of large size castings and of weld joints.
Candidate of Technical Sciences A. K. Bakhrevskiy (KhPI) reported on new data relating to the innoculation of metals. The higher the intercontact difference of the potentials between the solid and the liquid phase the more disperse will be the obtained structure. If the inoculating agent forms with the metal a limited solid solution, its action will be the more intensive the lower its intercontact potential. This assumption was verified on inoculated zinc, tin, aluminium and other metals.
Engineer B. I. Movshovich (KhTZ) in his paper "Obtaining High Mechanical Characteristics of Plunger Pairs Made of the Steel KhVG in the Case of a Shortened Heat Treatment

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Cycle" dealt with the changes in the properties of this steel as a function of the heat treatment regime. On the basic of the results an experimental batch of plungers and bushings were heat treated according to the new regime consisting of hardening from 820°C in oil to 150°C, cold treatment for one hour, tempering in oil at 150°C for four hours. The proposed heat treatment cycle is half as long as the heat treatment according to existing practice. After heat treatment the components had high mechanical properties (R_C = 62 to 63) and a stability of the dimensions. Engineer L. P. Ivanova (KhPI) in her paper "On the Brittleness of Steel During Bright Hardening and Bright Tempering in Molten Alkalies" stated that irreversible and reversible brittleness occurs as a result of heat treatment in molten alkalies at temperatures exceeding 400°C. The irreversible brittleness is due to the saturation of the steel with nitrogen as a result of deoxidation of the potassium ferrocyanide in the alkali bath. The reversible brittleness is caused by the hydrogen saturation of the steel resulting from the interaction of the alkali with the iron.

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Investigations were carried out on selecting a deoxiding agent to substitute the potassium ferrocyanide, the presence of which in the hardening bath brings about saturation of the surface with nitrogen. Exclusion of the nitrogen enabled revealing the influence of hydrogen on the properties of the steels during heat treatment in molten alkalies. Calcium carbide was chosen as the deoxiding agent.

Engineer I. S. Svet (KhTZ), dealing with the use of high frequency heating for heat treatment of components, discussed problems of induction heating in hardening of cast iron components, problems of speeding up the heat treatment, full automation, mechanization and large scale hardening of components. In his words the cyaniding of components with small depths of the diffusion layers (0.15-0.3 mm) is being used. The evidence obtained by the introduction of gas cyaniding was dealt with by Engineer Ye. L. Orlacarova "Gas [illegible] of Components of the Fuel System of DT-54 Engine". Gas cyaniding was effected on components made of the steels 20, 40KhS, 18KhGT and 13KhNVA. Prior to that, liquid cementation was

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used. The operation of the gas cyaniding furnace is considerably more convenient than that of the liquid cementation bath. Also, gas cyaniding has a higher productivity and is more economical. The surface layer produced by gas cyaniding has a higher wear resistance and has better anti-corrosion properties than that obtained by liquid cementation.

A. V. Sakharova (Ball Bearing Works) reported on a new method of gas cyaniding of tools made of the high speed steels R18 and R9. The presence of a liquid carburiser, which evaporates at 520 to 560°C and, in decomposing, forms gases from which, during dissociation, active nitrogen and carbon separate out, simplifies considerably the process of gas cyaniding of tools. As such a carburiser an organic substance of the aminoalcohol type was tested. The data of the experimental work and of the Works' tests confirmed the possibility of obtaining a cyanided layer in current type equipment for gas case hardening in the case of feeding of the liquid carburiser from a drop dispenser into the retort of the furnace.

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The quality of the obtained hardened surface layer satisfies the requirements to be met by the cyanided layer as regards depth, micro-structure and micro-hardness. Candidate of Technical Sciences V. A. Ul'yanov (Khar'kov Motor Road Institute) reported on experimental results and prospects of industrial application of Cr-Si alloys for cast components operating under conditions of abrasive wear.

Resolutions of the conference contained recommendations relating to more extensive use of high frequency heating of steel for heat treatment: introduction into practice of two-frequency hardening of gears; case hardening with direct (immediate) hardening according to the experience of ZIL: high temperature tempering and also extensive introduction of high temperature gas cyaniding of components (KhTZ experience) and low temperature gas cyaniding of tools (GPZ experience). Furthermore, bright hardening and bright tempering of steels in alkali baths in accordance with the results obtained by the Metals Technology Chair of KhPI should be intensively used